ABSTRACT

An ethylene-based polymer which is a copolymer obtained from ethylene and a C3 to C10 α-olefin and satisfies the following requirements (i), (ii), (iii) and (iv) simultaneously provides a blow-molded product and an extrusion-molded product excellent in moldability, mechanical strength and outward appearance.

(i) melt flow rate [MFR_2 (g/10 min)] under a loading of 2.16 kg at 190°C is in the range of 0.01 to 10,

(ii) melt tension [MT (g)] and the above melt flow rate [MFR_2 (g/10 min)] satisfy the following relationship: $MT \geq 3.2 \times MFR_2^{-0.55}$,

(iii) an activation energy [Ea] of fluidization is less than 30 (KJ/mol), and

(iv) swell ratio is 1.36 or more.

The ethylene-based polymer of the invention is preferably produced by copolymerizing ethylene with a C3 to C10 α-olefin, in the presence of a solid catalyst carrying, on (C) a solid carrier, a mixed transition metal compound consisting of (A1) a group 4 transition metal compound containing a specific salicyl aldimine ligand and (A2) a group 4 transition metal compound containing a specific cyclopentadienyl ligand and (B) at least one compound selected from (b-1) an organometallic compound, (b-2) an organoaluminum oxy compound, and (b-3) a compound reacting with the transition metal compound to form an ion pair.